

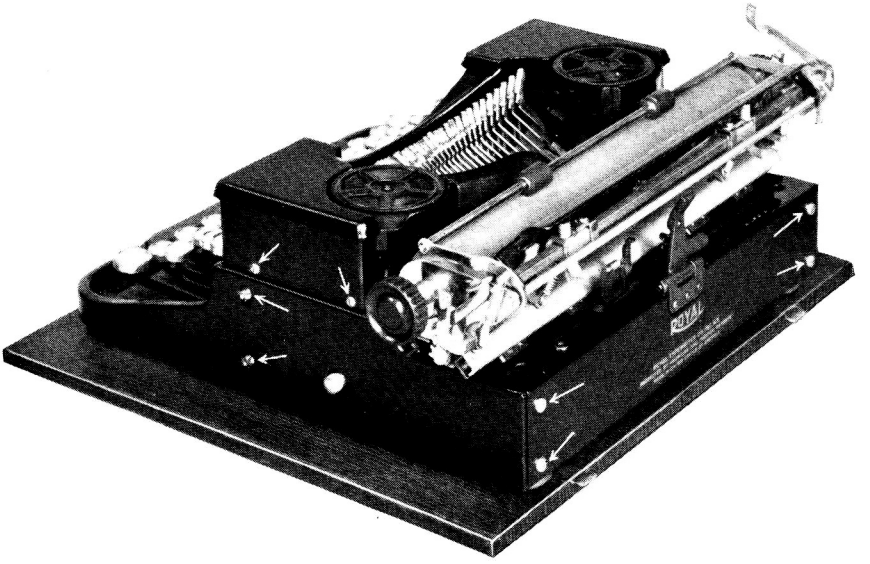
PORTABLE TYPEWRITER

How to Make Adjustments and Minor Repairs

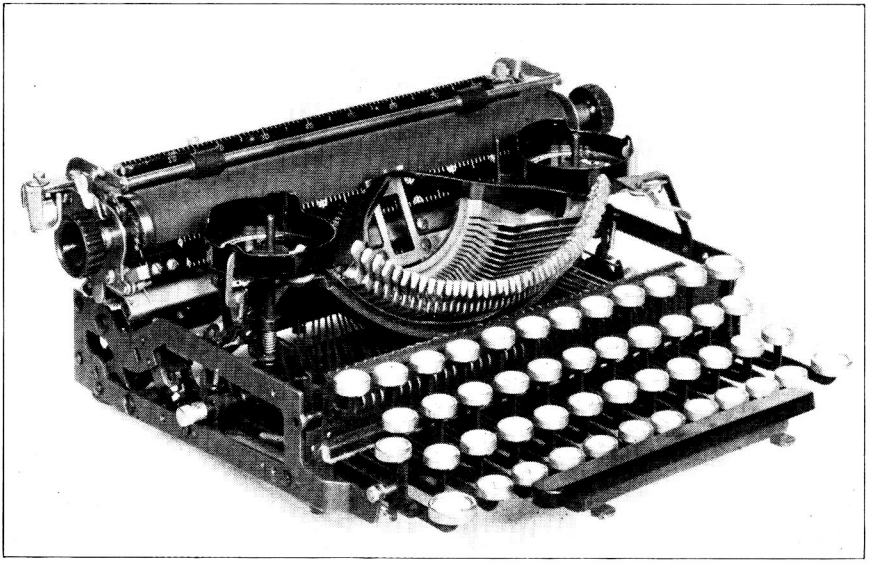
THE ROYAL PORTABLE TYPEWRITER is exceedingly simple and sturdy in construction, and requires little or no adjustment after it leaves the factory. There are times, however, when to suit the personal taste of an operator or to meet certain conditions, slight adjustments may be necessary. With the aid of illustrations we have tried to make these adjustments and certain minor repairs perfectly clear for even the lay reader.

ROYAL TYPEWRITER COMPANY, Inc.
316 BROADWAY, NEW YORK, N. Y.

Removing Mask



Complete Machine

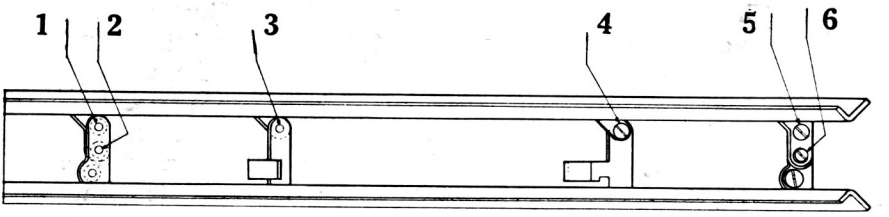


Machine Without Masks

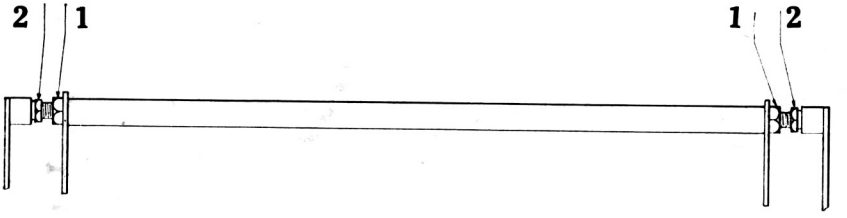
Removing Mask

Whenever it is found necessary to make adjustments or repairs on the internal mechanism of the machine, it is always advisable to remove the top and bottom mask of the machine. This is very easily accomplished by first removing the four screws which hold the machine to the baseboard; then remove all screws indicated by arrows. Upper and lower mask can then be removed. It will be found that the machine is then a complete unit, easily accessible for adjustment.

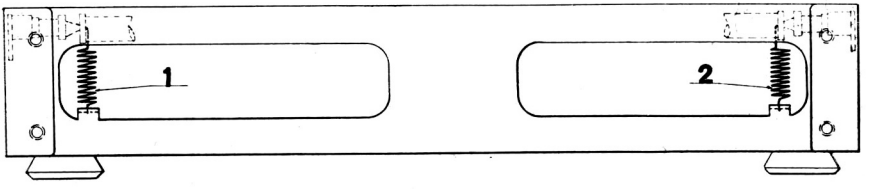
1. Carriage



2. Shift Bail



3. Carriage Shift Tension



1. Carriage

If for any reason it should be necessary to remove the carriage, first disconnect draw band and hook it over the head of screw on bottom rail support provided for this purpose. Remove the two small screws in extreme right end of bottom and upper rails, then move carriage to the extreme right and insert a thin screwdriver or rod between the rails from the left side and push out carriage balls and ball spacers. After these have been removed the carriage may be lifted off the rails.

To replace carriage, stand the machine on its back and insert top spacer and balls first. This is the easiest method of replacing carriage.

If the carriage should fit loose, the lost motion between the rails can be taken out by adjusting the rails, as follows:

Loosen the binding screws Nos. 1, 2, 3 4, 5 and 6 located on the back lower rail indicated by arrows in cut. This will permit you to adjust rails backward or forward as may be desired. Care must be exercised so as not to get the rails too far apart or the carriage will bind.

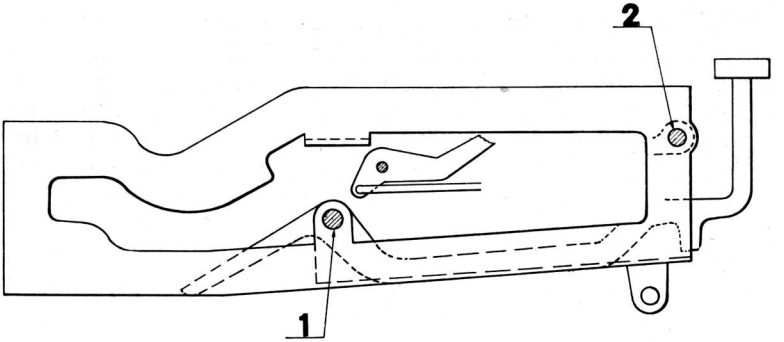
2. Shift Bail

For adjusting endwise motion in shift bail and bottom rail, loosen large lock nut No. 1 on shift bail pivot screw and make adjustment with small nut No. 2.

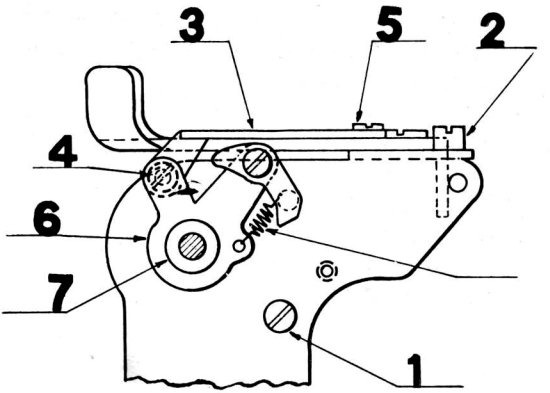
3. Carriage Shift Tension

Increase or decrease the carriage shift tension by shortening or lengthening shift balance springs Nos. 1 and 2 located in the right and left lower corners of the back of machine. These springs can be reached by removing back base plate or from the bottom of machine.

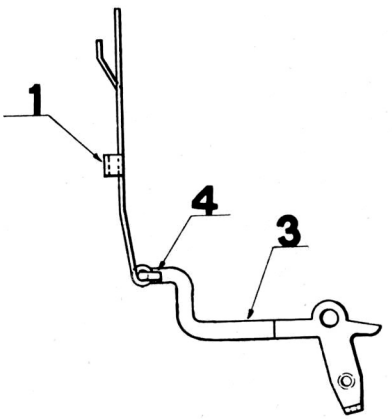
4. *Key Levers*

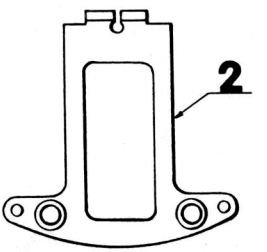


5. *Line Space Mechanism*



6. *Ribbon Vibrator*





4. *Key Levers*

If it should, for any reason, be necessary to remove a key lever and front link, remove screws 1 and 2 in fulcrum rod. Use follow rod in the same manner as when removing a type bar.

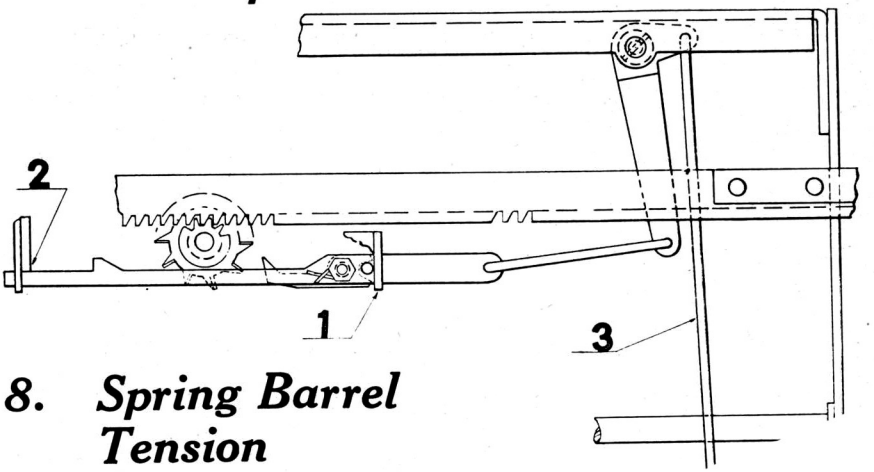
5. *Line Space Mechanism*

The line space pawl eccentric stop screw No. 1 should always be set so that the cylinder has a trifle forward play when the line space lever is brought forward to its stop No. 2. Line space eccentric stop screw No. 2 should then be set lightly against line space lever. If there should be a bind in the line space mechanism, see that link No. 3 is not binding on screws 4 or 5. Also, see that line space pawl arm No. 6 is working freely and is not binding on bushing No. 7. If the line space pawl should skip and fail to work, see that line space pawl tension spring No. 8 is not disconnected and has the proper amount of tension.

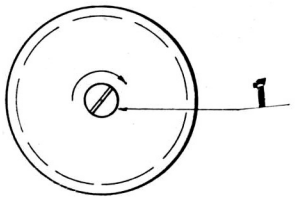
6. *Ribbon Vibrator*

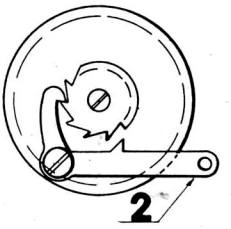
Should the ribbon vibrator stick or bind for any reason, first see that it has not become bent or dirty. Examine ribbon guiding wings of vibrator No. 1 and see that they are not fitting too closely to type bar guide No. 2. Also, see that vibrator arm No. 3 is in line with vibrator. If it is desired to remove the ribbon vibrator, straighten end of cotter pin No. 4 and remove, which will then permit the ribbon vibrator to be removed.

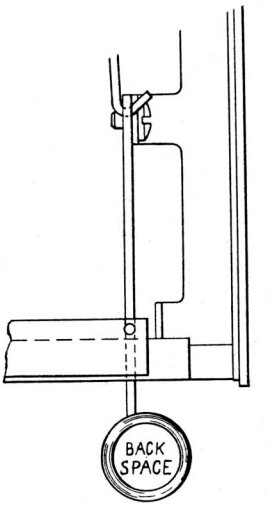
7. Back Spacer



8. Spring Barrel Tension

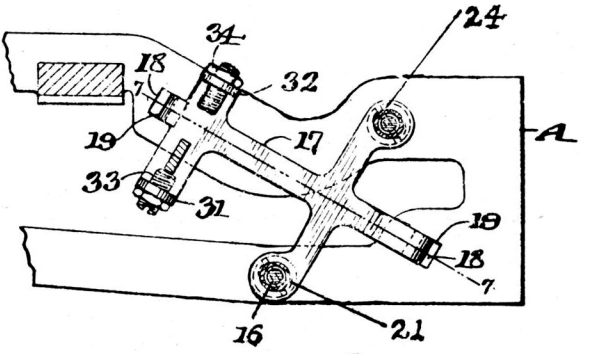






9. Ring and Cylinder

10. Shift Motion



7. Back Spacer

The back spacer should always be adjusted so that it back spaces one space at a time. If it should fail to work, examine back space pawl 1 to see that it is working freely and engaging escapement wheel when key is depressed. If the pawl should move escapement wheel too far or not far enough, lengthen or shorten link No. 3 until desired results are obtained.

8. Spring Barrel Tension

Tension may be added or reduced as follows:

To add more tension turn screw No. 1 in spring barrel from back of machine to the right. To reduce tension use lever No. 2 in front of spring barrel. This can be reached from the bottom of machine. See cut.

9. Ring and Cylinder

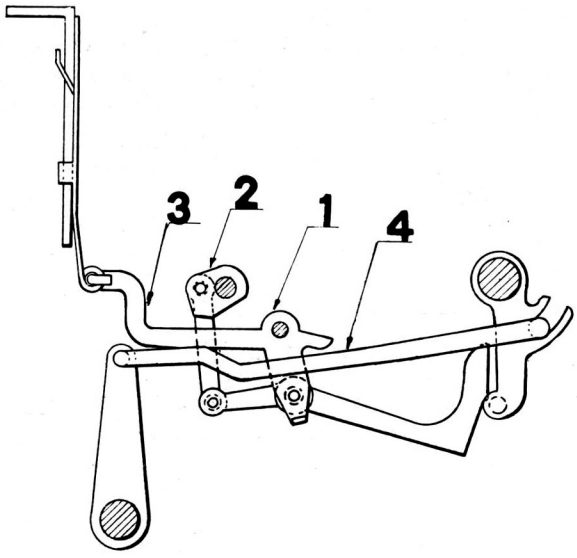
If the type bars should be off the cylinder or on the ring too heavily, make following adjustments:

First remove top dust plates and base mask. Loosen screws 21 and 24 on both sides of machine and by inserting a screw-driver in space No. 18 it will enable you to move carriage backward or forward as may be desired. In case such an adjustment is made, you may also find it necessary to make a slight adjustment on the lower case lock, which can be very easily accomplished by adjusting screw on extreme back of left side shift key.

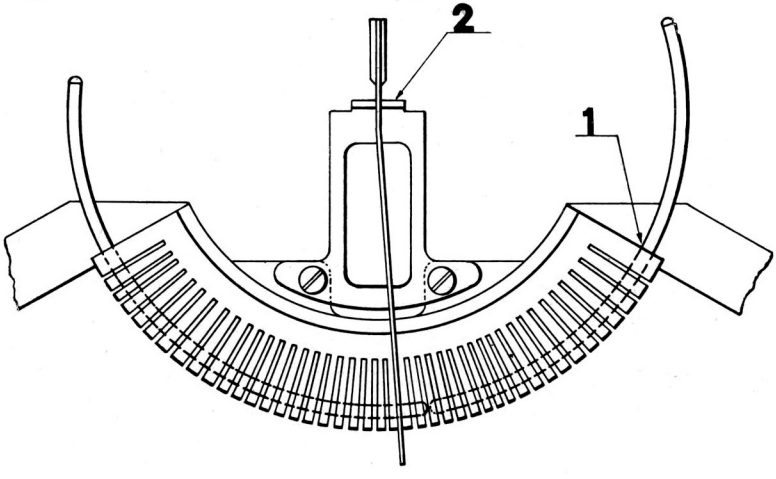
10. Shift Motion

If the small and capital letters do not print even, or on a straight line, adjust motion screws located directly under-neath front bottom rail as shown by Figures 31 and 32.

11. Two-Color Mechanism



12. Type Bars



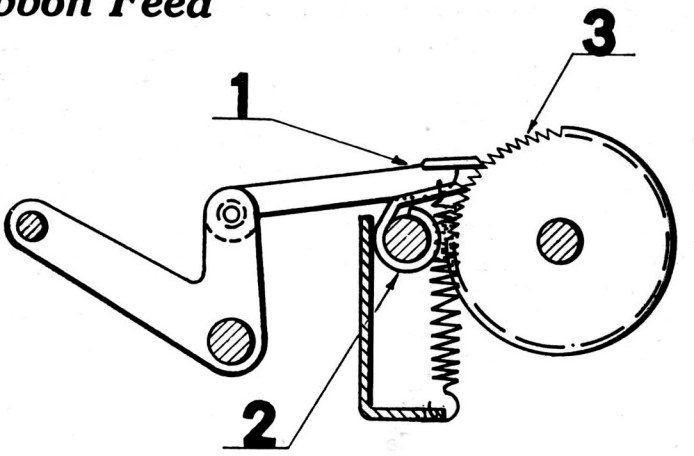
11. Two-Color Mechanism

If adjustments should be necessary, first examine all screws in cam and working parts to see that they are tight. If the ribbon is not throwing high enough, examine trip on the type bars. If the trip is out of adjustment, set it. Then hold a center type bar against the cylinder and determine if the ribbon vibrator arm No. 1 is setting against the vibrator arm stop No. 2. If it does not, the vibrator will have up and down lost motion when the bar is held against the cylinder. The play should be removed by shortening link No. 4. Be careful so as not to shorten this link too much or the bars will not go to the cylinder and will choke off. After the link has been shortened and the arm is setting against the stop and the ribbon still does not throw high enough, the arm should be bent upward a trifle until the desired results are obtained by using arm benders S- at point 3. In cases where the ribbon may be throwing too high, reverse the above operation.

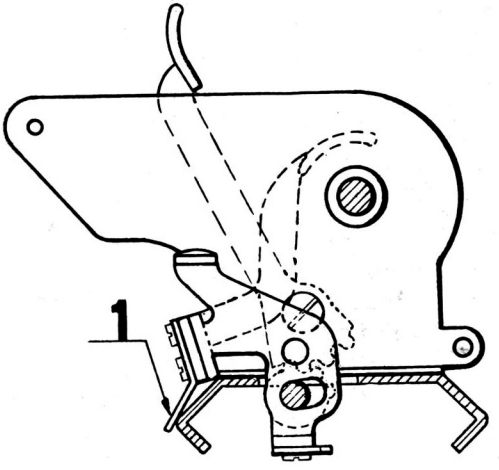
12. Type Bars

To remove a type bar first remove top dust plates. Use segment wire as a follow wire and insert in segment at Figure No. 1 and push out the pivot wire a little at a time until you reach the point where type bar which you wish to remove is located. Then draw the follow wire back just a trifle or enough so that the bar can be drawn up, then disconnect it from the type bar link. Be very careful in performing this operation so that not more than one type bar is released unless you wish to remove several. To replace type bar, reverse operation. If a type bar should stick and not return to its normal position after being brought to the cylinder, examine the bar to see if it enters the type bar guide No. 2 in the center and does not touch either side in its upward movement. Also, see that there is no dirt in the type bar segment slot. If the bar is entering the center of the guide and the slot appears to be perfectly free, examine the key lever action to see that there is no bind in the working part.

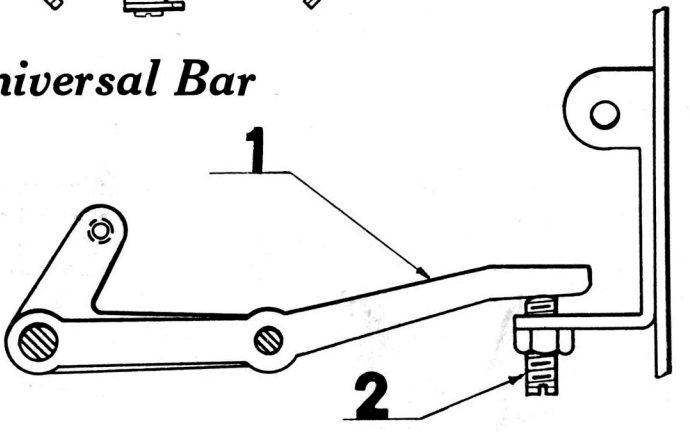
13. *Ribbon Feed*



14. *Escapement Rack*



15. *Universal Bar*



13. *Ribbon Feed*

If the ribbon does not feed properly, first see that all ribbon gears are meshing and all screws and gears are tight and parts are working freely. Then examine ribbon feed and stop pawls on right side of machine to determine if they are operating properly. See cut. The top or feed pawl should mesh with feed wheel No. 3. Lower or stop pawl No. 2 should also mesh. When machine is being operated, pawl No. 1 should move wheel No. 3 one space only on the stop pawl No. 2. This can be easily tested by using one key operated slowly.

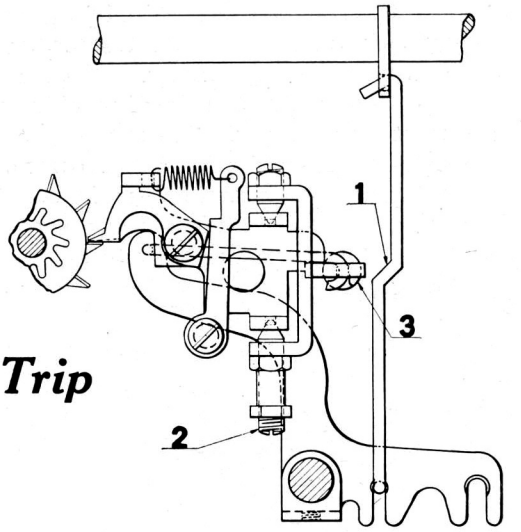
14. *Escapement Rack*

If the escapement carriage rack is setting too high or too low, it may be adjusted up or down with Stop No. 1 shown in cut, which can be bent for adjustment.

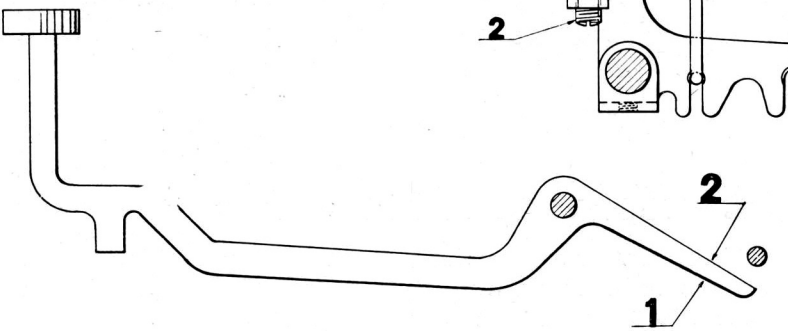
15. *Universal Bar*

The universal bar should always be set so that the center arm No. 1 shown in cut is always resting on stop screw No. 2, and should never be resting on the key levers and should be adjusted so that when one of the lower bank keys is depressed the type bar will rise approximately 3/8 in. from the headrest before the key lever engages the universal bar.

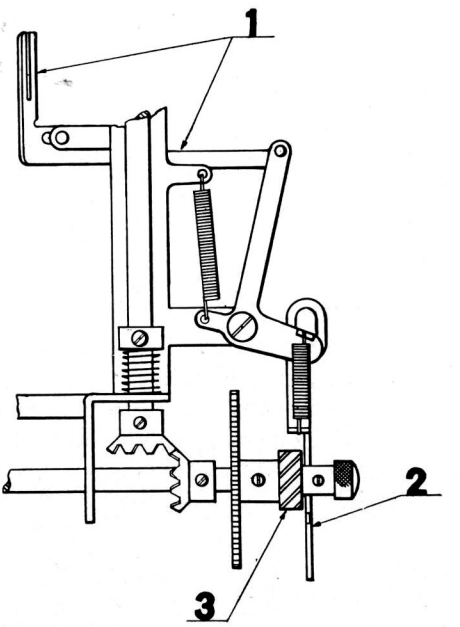
16. Escapement and Trip



17. Type Bar Trip



18. Ribbon Reverse



16. Escapement and Trip

The trip on the type bars should be adjusted so that the escapement is released when the type bar is ½ inch from the cylinder, but the trip should be tested by bringing the bar to the printing point with your finger in place of depressing the key lever.

If it should be necessary for any reason to change trip on entire machine, this can be accomplished by bending link No. 1 to lengthen or shorten as may be desired. This can be reached from bottom of machine and is located on an arm pivoted on the back of frame directly in front and to the right of spring barrel. See cut Link No. 1.

If it should be necessary for any reason to remove the escapement plate, loosen pivot screw No. 2 and back it out until the escapement plate can be removed. Also disconnect the tension spring, No. 3.

17. Type Bar Trip

If any of the type bars escape or trip in or out too far, they may be adjusted by slightly bending the key lever a trifle at points 1 or 2. To make a bar trip farther away from the cylinder, bend key lever up a trifle at point 1. To bring it closer, reverse operation by bending key lever down at point 2, using tool S- . When making this adjustment be sure to bend the key levers just a trifle at a time because it takes very little to change the adjustment of the bar or escapement.

18. Ribbon Reverse

First inspect all parts of ribbon mechanism as mentioned in ribbon movement adjustment. See that the ribbon is equipped with eyelets on each end. Examine sliding ribbon reversing arm No. 1 located on ribbon spool bracket. See that they are working freely. See that all screws are tight and all springs attached.

When ribbon eyelet draws, reverse arm No. 1 about ⅛ inch from its normal position, Pawl No. 2 should engage spiral cut wheel No. 3 and it should then reverse the ribbon feed shaft.

It is very important that spiral cut wheel No. 3 be set on shaft so that when it has reversed, pawl No. 2 will clear outside edge of spiral wheel.

19. Space Bar

The space bar should be adjusted so that it escapes the carriage at the extreme end of the downward stroke. If any adjustments are necessary, the space bar link may be shortened or lengthened as desired.

20. Margin Stops

The margin can be adjusted by bending extension on the margin stop to the right or left as may be desired.

21. Shift or Upper Case Lock

If any adjustments are necessary on the shift or upper case lock, take care of same by making adjustments with eccentric screws located directly underneath shift lock key.

22. Cylinder

To remove cylinder loosen screw in left cylinder knob and right cylinder end. Then draw out cylinder shaft, after which cylinder may be lifted out of carriage.

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